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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/727,505

12/05/2003

Motoaki Nishikawa

Q78746

7848

23373 7590 10/02/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

10/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/727,505	Applicant(s) NISHIKAWA ET AL.	
	Examiner MATTHEW J. DANIELS	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 16-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 June 2008 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 5-7, 20-22, and 24-25** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **As to Claims 5 and 6**, the term "the paper" lacks antecedent basis and it is unclear from Claims 1 and 5 which paper is being exposed. **As to Claims 7 and 22**, it is unclear if the base layer of Claims 7 and 22 is the paper layer of Claim 1, or if the paper of Claim 1 is also the paper of Claim 7 and the base layer is different. **As to Claims 20 and 21**, it is unclear which paper sheet is being exposed. **As to Claims 24 and 25**, it is unclear whether the "paper base" is the same as the "paper sheet" of Claims 1 and 18. If so, Claims 24 and 25 would appear to further limit the claims from which they depend.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-4, 8, 17-19, and 23-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US 6,169,266) in view of Bowen (US 3,909,582) and Sonobe (US 6,244,176). **As to Claim 1**, Hughes teaches a method of forming a display which could inherently be used as a display of a packaging case, the method comprising:

Irradiating a laser beam on a front face of a material that could be used as a packaging case having a colored layer (Fig. 5B), a film layer (11:55-65) which protects the front face, and a backing layer (Fig. 3, item 22);

Evaporating the colored layer and the film layer using the laser beam to expose the backing layer (Fig. 3, item 22), thereby forming the display on the article which could be used as a display on a packaging case.

Hughes is silent to the paper sheet and to explicit teaching that the ink or paint is a resin. However, these aspects of the invention would have been prima facie obvious for the following reasons:

a) Paper sheet labels are conventional as backing layers and are disclosed, for example, by Bowen and/or Sonobe. Bowen teaches a package (1:10-16, 1:39-45) and suggests providing multilayer laminate packages (6:62) which may include paper (6:57-60) and two substantially equally absorptive layers which selectively relatively absorb more energy than the rest of the

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layers of the laminate. Sonobe teaches (6:54-55) a paper sheet with a resin ink applied to its surface.

b) Sonobe teaches an ink which is formed from monomers and oligomers (5:10-22), which is interpreted to be a resin, applied to the surface of a paper backing material (56). Bowen also teaches resins used as absorptive materials (6:39-57).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Bowen and Sonobe into that of Hughes because:

(a1) Bowen suggests materials for use in a multilayer ablatable sheet (Fig. 6, 11:11-20), which Hughes provides.

(a2) The paper material of Bowen would provide a reinforcing layer to the invention of Hughes.

(b1) Hughes suggests wear resistant (2:32) inks (2:47) and the thermosetting inks of Sonobe would provide favorable wear resistance.

(b2) One of ordinary skill in the art would have recognized that the art of Sonobe could be substituted for the ink of Hughes to provide the predictable result that thermosetting layers of ink would be provided in the same or substantially the order required by Hughes.

As to Claims 2-4, Hughes is silent to the type of laser, but Bowen teaches a carbon dioxide laser (6:6) which would obviously be capable of achieving the objective of Hughes (compare Hughes Fig. 3 and Bowen Fig. 6). Sonobe teaches UV coating material (ultraviolet curing ink, 5:16-17) consistent with the suggestion of both Hughes and Bowen. **As to Claim 8**, it is submitted that in view of Bowen's teaching to provide generic packaging materials which include paper, that it would have been obvious that any of the claimed articles could be packaged in the packaging material described by the combination set forth above. **As to Claim 17**, Hughes

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teaches ablative removal (Abstract), which is interpreted to be evaporation, of a total thickness of a portion of the outer layer and a total thickness of a colored layer adjacent to the resin film layer to form the display (Fig. 5B, item 54). In combination with Sonobe, it would have been obvious to make these layers of a resinous ink, as set forth above under the rejection of Claim 1.

As to Claim 18, Hughes teaches a method of forming a display which could inherently be used as a display of a packaging case, the method comprising:

Irradiating a laser beam on a front face of a material that could be used as a packaging case having a colored layer (Fig. 5B), a film layer (11:55-65) which protects the front face, and a backing layer (Fig. 3, item 22);

Evaporating the colored layer and the film layer using the laser beam to expose the backing layer (Fig. 3, item 22), thereby forming the display on the article which could be used as a display on a packaging case.

Hughes is silent to (a) the paper sheet and to (b) the resin film being polyester or polypropylene. However, these aspects of the invention would have been prima facie obvious for the following reasons:

a) Paper sheet labels are conventional as backing layers and are disclosed, for example, by Bowen and/or Sonobe. Bowen teaches a package (1:10-16, 1:39-45) and suggests providing multilayer laminate packages (6:62) which may include paper (6:57-60) and two substantially equally absorptive layers which selectively relatively absorb more energy than the rest of the layers of the laminate. Sonobe teaches (6:54-55) a paper sheet with a resin ink applied to its surface.

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b) Bowen teaches that the resin materials used as the ablative materials may be polyesters (6:52-55) or polyolefins (6:55-57) such as polypropylene (Table II, examples 5-7)

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Bowen and Sonobe into that of Hughes because:

(a1) Bowen suggests materials suitable for use in a multilayer ablatable sheet (Fig. 6, 11:11-20), which would have been obvious substitutes for the materials disclosed by Hughes.

(a2) The paper material of Bowen would provide a reinforcing layer to the invention of Hughes and provide a backing material that one would have recognized as an obvious substitute for the backing material (22) of Hughes.

(b1) Sonobe teaches merely a conventional backing material for labels, and in view of the objective of the Hughes process, the backing layer of Sonobe would have been an obvious substitute for the backing material of Hughes.

As to Claim 19, the materials of Hughes, Sonobe, or Bowen are interpreted to be UV coating materials. **As to Claim 23**, it is submitted that in view of Bowen's teaching to provide generic packaging materials which include paper, that it would have been obvious that any of the claimed articles could be packaged in the packaging material described by the combination set forth above. **As to Claims 24 and 25**, as described above with respect to Claims 1 and 18, it would have been obvious from the method of Sonobe or Bowen to use a paper base in the process of Hughes, and to expose the paper base.

4. **Claims 5-7 and 20-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US 6,169,266) in view of Bowen (US 3,909,582) and Sonobe (US 6,244,176), and

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further in view of Ward (US 2,192,423). Hughes, Bowen, and Sonobe teach the subject matter of Claims 1 and 18 above under 35 USC 103(a). **As to Claims 5-7 and 20-22**, Hughes is silent to the claimed limitations. However, these claims would be met by the use of a multilayered material comprising two backing layers of paper. Ward provides two paper layers (page 2, right column, lines 35-50) joined together by a strip of adhesive. Application of a second paper backing layer to the modified Hughes label described would have been obvious to the ordinary artisan at the time of the invention because lamination of multiple layers of paper together using an adhesive is a known technique from the Ward reference that would have been useful in application to a similar process for sheet materials having designs, such as the method of Hughes, when performed in the same manner.

Response to Arguments

5. Applicant's arguments filed 17 June 2008 have been fully considered but they are not persuasive or are moot in view of the new grounds of rejection above. The arguments appear to be on the following grounds:

(a) Hughes teaches away from etching the entire depth of the undercoat layer 24, and therefore teaches away from exposing a paper sheet.

(b) Cicci fails to disclose evaporating the colored layer and resin film to form the display on packaging. Hughes nor Ward disclose the feature, and even if the references are combined they fail to disclose evaporating to expose the paper sheet.

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6. Response:

(a,b) The structure of the “paper sheet” used in the present invention is not limited.

(Specification 14). In view of the amended limitation drawn to exposure of the paper, further consideration of the nature of the claimed paper sheet is warranted.

The claimed paper sheet is not claimed or described as being cellulose-based or as excluding a coating. Wax paper commonly found in the kitchen is still described as a “paper” even though it has a surface coating over its entire surface. In this view, it is submitted that the undercoat layer 24 of Hughes may be viewed as a part of the sheet 22 over which it has been coated. The coated material (a combination of items 22 and 24 of Hughes) forms a composite paper which is exposed when laser light is applied.

In second interpretation, however, Hughes does teach that even the undercoat layer can be fully removed (Fig. 3) in some instances. It is submitted that the reference is prior art for all that it teaches, including nonpreferred embodiments. Although Hughes does describe the desired result in the portion of column 8 cited by Applicants, the Hughes reference is not expressly limited thereto since it also discloses that removal of all layers may occur.

In a third interpretation, it is noted that when the structure of a paper sheet is "not limited" to a common cellulose-based paper, but is instead interpreted to include any sheet material without regard to its structure. This may include the base layer of Hughes (22) alone, or the base layer with the undercoat layer (24) of Hughes. It is submitted that the amendment to Claims 1 and 18 actually results in very little narrowing of the scope of the invention since in the method of Hughes, all layers below the top two layers could be interpreted as part of the "paper".

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/
Primary Examiner, Art Unit 1791
9/28/08